

Upper Mississippi River National Wildlife Refuge Complex
Comprehensive Conservation Plan

Issue Fact Sheet

The Issue: Invasive species

Background: Invasive species are plants and animals that cause severe changes and degradation when introduced into native habitats. Exotic species are non-native organisms that can invade native habitat. Invasive species reduce biological diversity and are considered “biological pollution.” Virtually all corners of the “Upper Miss” have invasive species present. Some, such as leafy spurge and purple loosestrife, have been around for a while. Others like the zebra mussel are relative newcomers.

Since “Upper Miss” is a riverine environment comprised mostly of wetland habitats, aquatic invaders probably constitute the greatest threat to Refuge resources. However, recent widespread releases of beetles, which feed on the leaves, stems, and roots of purple loosestrife plants offer hope for reclaiming stands of emergent vegetation displaced by this species.

European buckthorn, a large, berry-producing shrub spread by songbirds has invaded upland and bottomland hardwood forests on the Refuge forming thick understory stands which crowd out natural reproduction of mature trees shrubs, and wildflowers. The exotic zebra mussel, now present in all Refuge pools, constitutes a serious threat to native mussels including the federally endangered Higgins eye pearly mussel.

Other potentially harmful exotic species such as the round goby and big-headed carp are “on the scene” and could invade Refuge wetlands in the immediate future.

Main Concerns:

1. The present distribution and rate of spread of the various invasive species throughout Refuge habitats has not been documented.
2. There are no known control mechanisms for zebra mussels. The relationship between pool drawdowns and zebra mussels has not been documented.
3. Mechanical, chemical and biological control techniques for species such as, European buckthorn, reed canary grass and leafy spurge have achieved varying degrees of success.
4. Major funding is lacking if existing Refuge resources are to be diverted from on-going programs to control of exotics.
5. What is the long-term prediction for the future make-up of aquatic habitats if we do nothing? Will native mussels be wiped out? Will improvements in water quality from zebra mussel filtering offset other losses?